Importance and development of a collection concept

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Abstract: Written by and for persons curating, preparing or managing natural history collections, this handbook intends to make existing knowledge easily available and transferable. It gathers specific actions relevant for the conservation of natural history objects, the coordinated digitisation of associated data and the development of a modern digital infrastructure. This handbook should facilitate the long-term utilisation of Swiss natural history collections data for science and society.

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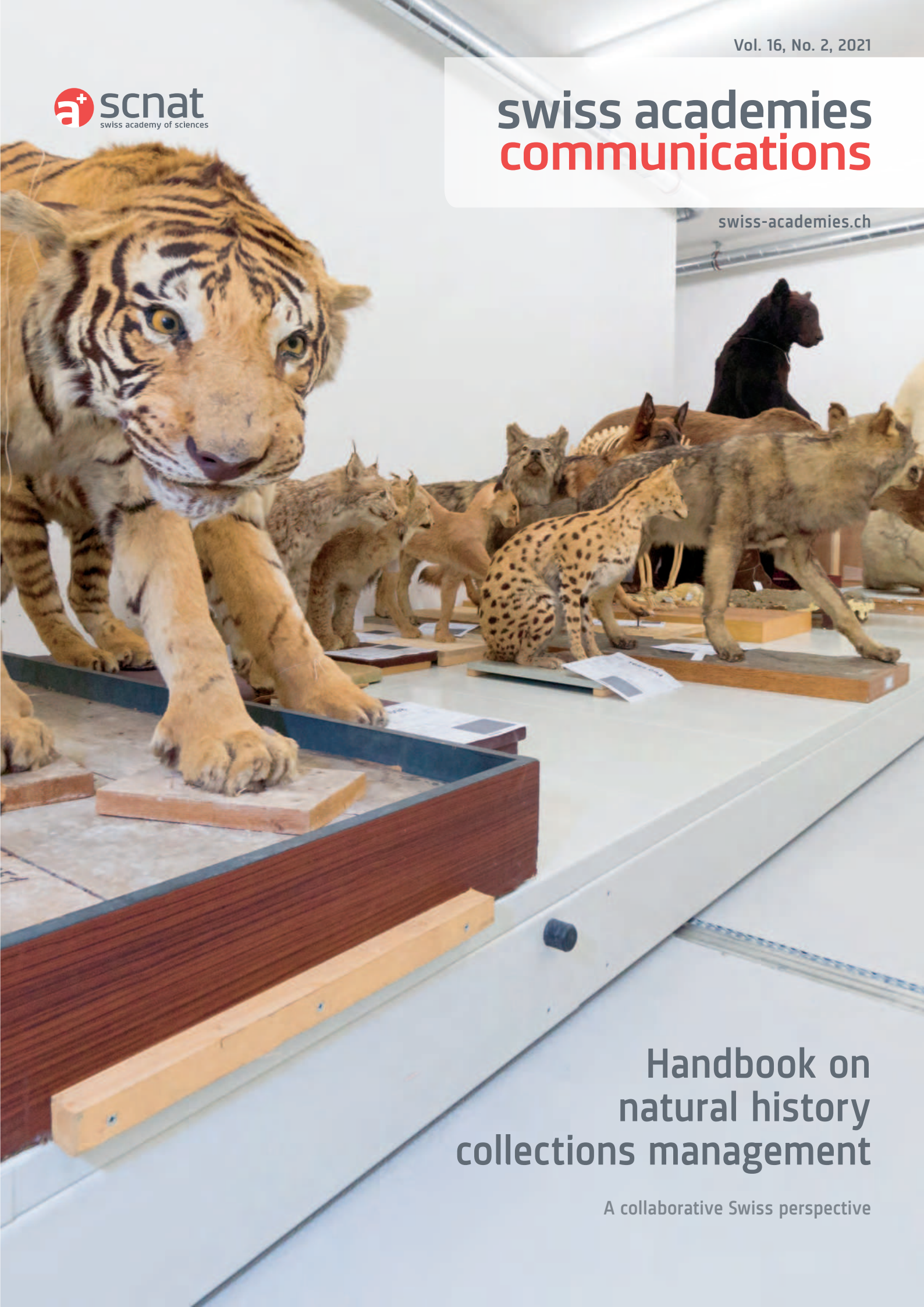

Handbook on natural history collections management

A collaborative Swiss perspective

Chapter 1: Importance and development of a collection concept

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1.1 Introduction

Most natural history collections originated as private collections that were merged, at some point, with other private collections before, ultimately, being donated to public institutions, like natural history museums, botanical gardens or other collections in universities or establishments of higher education. As a consequence, most collections have been assembled, over long time periods, on the basis of the personal and often very diverse interests of their founders and care-takers, rather than based on a clearly defined collection concept, that is, a compilation of objectives and strategies for efficient collection assemblage, accession and management. Collection concepts serve as a guideline, as source information, as means of communicating with stakeholders as well as a plan for collections management.

Even small and medium-sized collections may benefit from developing and adopting a collection concept, as new accessions may mean that collections grow to such sizes that a strategy may become essential for defining the focus of future accessions as well as the long-term management of the collections themselves.

We shall cover the major topics related to a collection concept at the national level, starting with an introduction to the principal reasons for collecting, the history of natural history collections in Switzerland and the legislative framework surrounding the accession of specimens. We discuss the most important decisions to be made when developing a collection concept and present examples from Swiss natural history collections, covering geological, botanical, fungal and zoological specimens.

Further reading

- for general considerations on collection concepts, see VMS (2011)
- for examples of natural history collection concepts, see section 1.5

Figure 1.1.a: Squirrels in the vertebrate collection of the MHNF in Fribourg (photo Michael Maillard)

1.2 Reasons to collect

Every object deposited in a natural history collection originates from someone's curiosity, their desire to discover new horizons or even their personal quest for adventure or glory (Frick 2018). The main reasons for collecting specimens from nature, namely for scientific and educational purposes, have remained largely unchanged for the last two centuries. Collections, however, representing the very foundation of natural history museums, also serve to 'preserve, interpret and promote the natural and cultural inheritance of humanity' (ICOM 2017).

While the general public may be aware of the objects displayed in exhibitions and used in outreach programmes to describe and illustrate the natural and physical phenomena of our planet and universe, they are typically unaware that the majority of objects in natural history institutions are stored behind the scenes, archived and managed for research purposes.

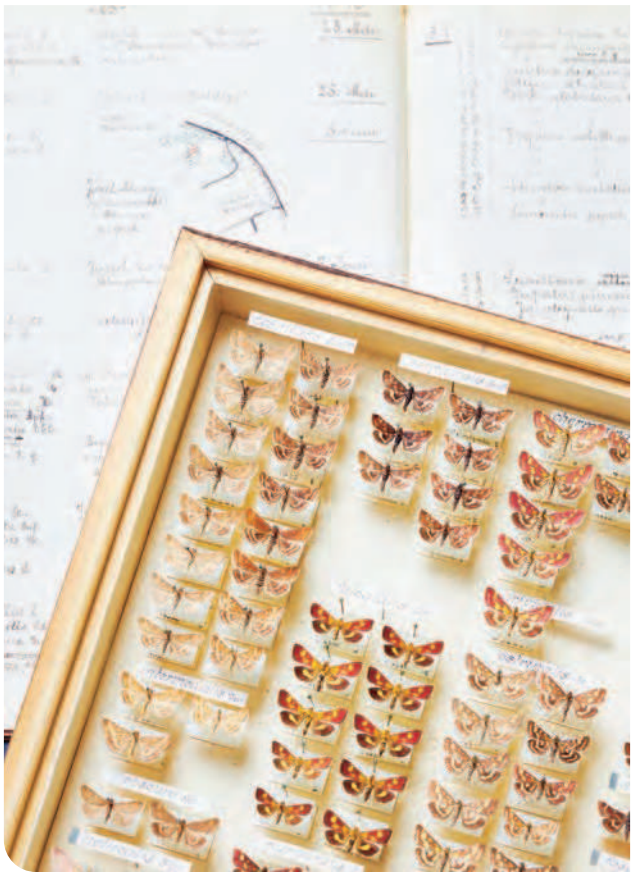

Figure 1.2.a: Field book and insect drawer with voucher specimens of the ETHZ-ENT in Zürich (photo Simone Vogel)

Research, from documentation to DNA analysis

A natural history collection is a scientific collection of material items from the natural and physical world that are preserved, catalogued and managed for the purpose of scientific study. The descriptions, comparisons and generalisations that are possible using these material objects form the foundation for our understanding of living things and the natural environment.

An early motivation to amass collections of specimens, dating from at least the 16th century, was to document the existence of species and to name them. Towards the end of the 19th century, most plant species were thought to be already discovered and described but their distribution patterns, both spatially and temporally, were not well-known, providing the impetus for renewed collecting efforts (Scheidegger 2017). The documentation of geographic information, in association with the specimens, became so prevalent in the late 19th and early 20th century that specimens without accurate collection locality information were deemed 'useless' (Binz 1902), justifying the motivation to discard them (Binz 1908).

In modern times, motivations for collecting and researching natural history objects range from documenting the presence of species and evaluating how populations change through time and space, to archiving specimens as vouchers for morphological or other sorts of analyses, to performing genetic analyses and safeguarding specimens for future study.

Example

- natural history collections, as cultural and patrimonial assets, are objects that must be preserved for future generations. In addition to housing systematic collections of local, regional, national and/or worldwide importance, Swiss natural history institutions also have obligations to document bio- and geodiversity and, as such, to promote collection-based research

Further reading

- for a general overview on museology, see Waidacher (1999)

1.3 History of collecting

To present a comprehensive history of the collection of natural history objects in Switzerland would be a major undertaking, due to both the long time period concerned (over two and a half centuries) and the diverse motivations of the numerous people who have contributed to the creation of this national patrimonial heritage. Broadly speaking, four partially overlapping periods, with differing motivations, can be defined. The rich history of collecting, both in Switzerland and from around the world, has resulted in the great diversity of natural history collections in Switzerland, as well as of their individual scientific specialties and compositions.

Era of cabinets of curiosity (16th to 18th centuries)
The collection of physical objects and curiosities from nature dates back to very early modern history when naturalists and aristocrats accumulated collections for scientific investigation, as well as for displaying and their own personal prestige.

Botanists and geologists were among the first systematic and scientific collectors of natural history objects. Collecting and preserving plant specimens by pressing and drying, a practice allegedly started by Luca Ghini (1490–1556) of Bologna, was further motivated by the arrival of then-unknown plant species from the New World, and thus associated with the founding of botanical gardens (Benkert 2020). In 1629, a public library located in the 'Wasserkirche' in the City of Zürich opened to the public. Besides books, art and scientific objects were also exhibited. As such, this display likely represented one of the earliest public museum displays in Switzerland.

During the Age of Enlightenment, collections of objects related to natural history became popular among the upper classes in Switzerland. Exhibited initially in cabinets of curiosity and accessible only to a select circle of educated people, these collections were later made available to the general public. The driving force behind this new tendency to share science with the public were individual personalities like Charles-Aloyse Fontaine (1754–1834) in Fribourg or Franz Joseph Hugi (1791–1855) in Solothurn (see figure 1.3.a).

Era of international expeditions of naturalist scientists (18th to 20th centuries)
Beginning in the Age of Enlightenment and lasting until the 20th century, Swiss naturalist scientists (e.g. the De Candolle family, Hans Schinz, Alfred Däniker, Hans Hess and others), with the goal of documenting biological and geological diversity, conducted or financed scientific expeditions in different and often remote regions of the world.

Figure 1.3.a: A turtle shell from the collection of Franz Joseph Hugi from the early 19th century, archived in the NMSO in Solothurn (photo Silvan Thüring)

These reference collections are located in some of the larger cities in Switzerland, often associated with scientific research institutions (museums or botanical gardens) and universities. They are available for study by scientists worldwide. During the same period cantonal and regional scientific societies, for example those in Aargau (Schaffner 2011), Bern (Herwegh 2012) and Zürich (Rübel 1946) were created, which further promoted scientific exchange and lead to the establishment of natural history museums and botanical gardens.

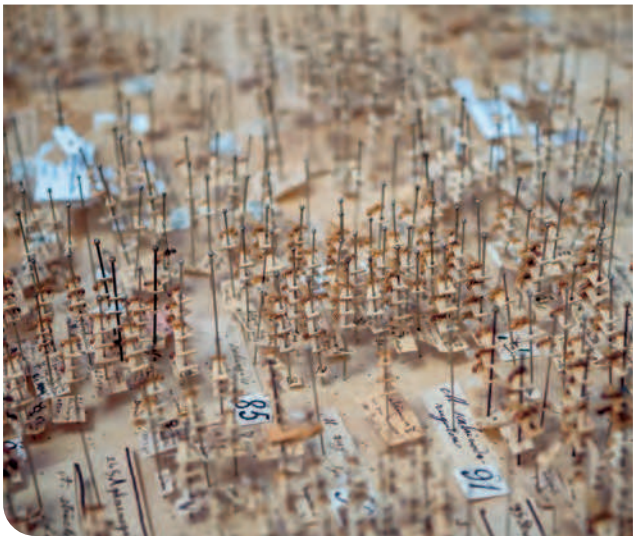

Figure 1.3.b: Close-up of the ant collection of August Forrel from the mid-19th century, archived at the MZL in Lausanne (photo Michel Krafft)

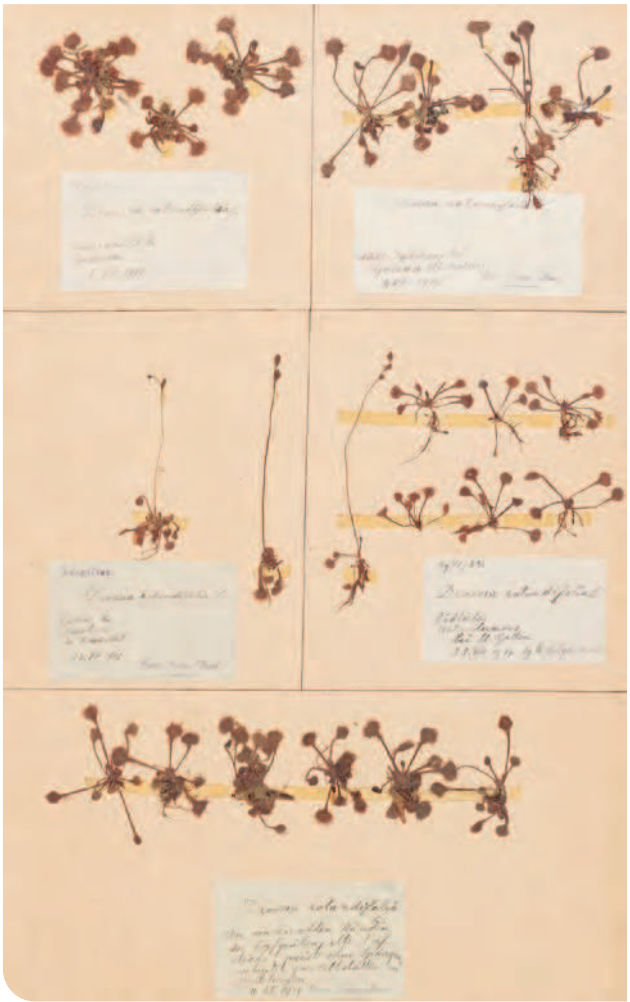

Figure 1.3.c: *Drosera rotundifolia* collection documenting the St. Gallen area flora around 1917, archived in the NMSG in St. Gallen (photo Chris Mansfield)

Era of local nature documentation and collections (1850 to 1950)

Other natural history collections, typically amassed during the 19th and early 20th centuries, documented the diversity of plants and animals on a local scale. During the latter half of the 19th century, a diverse group of people from the middle-class, often not biologists or geologists by training, accumulated collections of regional natural history objects, and contributed to the foundation of a number of smaller natural history museums in cities across Switzerland (see figure 1.3.c).

Era of international regulations for project-based collecting (since 1980)

The Convention on Biological Diversity (CBD), and the ensuing discussions about the value and ownership of biodiversity, ushered in a new era ('Zeitenwende') for natural history collections. Collection permits, required through international and national treaties and regulations and given for research purposes, must be obtained through specific agencies. Newly developed techniques, made possible by the digital revolution (e.g. digitisation and geo-referencing, 3D object scanning) and by molecular DNA-based methods, offer new approaches for the study of natural history objects. In Geosciences, since the 1980's, the huge progress made in the absolute age determination of rock and fossil samples allows for the reconstruction of the history of the Earth and the evolution of life in a much more precise and detailed manner.

Examples

- one of the oldest collections in Switzerland is the herbarium of Felix Platter (1536–1614) of Basel, preserved in the Burgerbibliothek in Bern, and those of his student, Caspar Bauhin (1560–1624) held in the herbarium of the University of Basel, who also founded its botanical garden (Bauhin 1623). Both had extensive international and professional networks, and trained and travelled abroad, exchanging plants with colleagues all over Europe (Benkert 2020, Selosse 2004)
- for a typical cantonal collection see the MNVS in Sion. The origin of these collections was the regional herbarium that was started by botanists from Valais. The contributors to this herbarium were canons, pharmacists, amateur botanists and museum curators. Other specimens were obtained as donations from collections received from the Society of Natural Sciences of the Canton of Valais (La Murithienne) and through exchanges with German, French, Austrian and other botanists

Figure 1.3.d: Entomological collection at ETH-ENT in Zürich (photo ETHZ-BIB / Pierre Kellenberger)

Further reading

- for a general overview on museology, see Waidacher (1999)
- on the science of describing, see Ogilvie (2006)
- on the natural history collections of Basel between 1735 – 1850, see Häner (2017)
- for non-university science in the 19th century, see Scheidegger (2017)
- for examples of international expeditions during the second half of the 19th century, see Beckmann et al. (2012)
- for a history of the botanical tradition and creation of the Botanical Garden in Geneva, see Bungener et al. (2017)

1.4 Legislation

Most historical collections originated at a period in time when international, national and cantonal laws on species and nature protection had not yet been established. Since the 1970's, however, an awareness of nature and the importance of species protection has become more and more prevalent in legislation.

Recommendations

- → check collection regulations and exportation/ importation regulations
- → connect legal papers such as collecting permits with the object(s) collected

1.4.1 International laws ratified by Switzerland

There are a number of international treaties that regulate the exchange (trade) of rare and endangered plants and animals, as well as minerals and fossils, between countries. A very prominent position is taken by the Convention on Biological Diversity (CBD) and its derivative treaties, but in earlier times other international regulations were negotiated and put into effect like laws on objects from UNESCO cultural heritage sites.

CITES – Convention on International Trade in Endangered Species

The 'Convention on International Trade in Endangered Species of Wild Flora and Fauna' (CITES 2020a), also known as the Washington Convention, aims to ensure that international trade in wild animals and plants does not threaten the survival of their natural populations in the wild. CITES currently protects some 5,000 species of animals and 29,000 species of plants from overexploitation as a result of international trade via listings in different appendices of the convention. CITES has been effective since 1975. See the ordinance on the movement of animals and plants of protected species (VCITES 453.0) for details.

Figure 1.4.1.a: Historic mammal specimens from different continents collected in the early 20th century, archived at the MHNF in Fribourg (photo Michael Maillard)

In order to fulfil CITES regulations concerning international exchange, the relevant appendices, which are regularly updated, must be consulted (CITES 2020b). In addition to the CITES website, these appendices are also online at the Species+ webpage (Speciesplus 2020) and permits must be obtained from the national authorities of the exporting (all appendices) and importing (appendix I) countries. Species listed in Appendix I are under threat of extinction in the wild. Trade in these species is severely restricted and exceptions are rare, except for species conservation programmes and conservation related research purposes. Species listed in Appendix II and III may become threatened if trade is not regulated and controlled. It should be noted that CITES regulations apply not only to new accessions but also to any specimens acquired after 1974.

For scientific institutions, a facilitated exchange for registered institutions is possible, if both the donor and recipient institutions are registered with their national CITES authorities. Institutions can apply and register as a scientific institution with their national CITES authority. More information can be downloaded in all national languages, plus English, from the Federal Food, Safety and Veterinary Office (FSVO 2020c).

The Nagoya Protocol on Access and Benefit-sharing

The Nagoya Protocol on Access and Benefit-sharing (Nagoya Protocol) is an international treaty adopted by the parties to the Convention on Biological Diversity (CBD), of which Switzerland is a member country.

The Nagoya Protocol is intended to ensure a balance of interest between countries where specimens are collected and those parties who may benefit from the use of genetic resources obtained from those specimens. The Nagoya Protocol is based on mutual consent and the fundamental principles of Access and Benefit Sharing (ABS) established under the CBD. Non-commercial biodiversity research is also covered within the scope of the Nagoya Protocol as any research on genetic resources, including the sequencing of genes and the publication of the obtained results, is considered to be the use of genetic resources. A general overview on the Nagoya Protocol, including links to the corresponding Swiss legislation, is provided by the Federal Office for the Environment (FOEN 2020b). The Nagoya Protocol is implemented in the Federal Act on the Protection of Nature and Cultural Heritage (NCHA 451) and the Nagoya Ordinance, i.e. the Ordinance on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilisation (NagO 451.61). As of the 12th October 2014, the date when the Nagoya Protocol came into force, all Swiss natural history museums and herbaria must comply with the protocol regulations and follow the Swiss legal framework (see above). The Nagoya Protocol does not apply retroactively and hence collections gathered before this date and stored in Swiss natural history museums or herbaria are not subject to these regulations.

In this context, the role of scientific institutions responsible for collections is quite complex, as they continually acquire, collect, store and use specimens, and thus their associated genetic resources, and may also transfer them to third parties, either temporarily in the form of specimen loans or permenantly as part of exchange programmes. The scientific material that is particularly affected by the Nagoya Protocol includes: 1) permanent accessions, such as samples collected in the field by scientific staff or those obtained through institutional exchanges, purchases and donations, and 2) temporary accessions, including inter-institutional loans. Further details on the Nagoya Protocol and its impact on non-commercial research have been discussed by Greiber et al. (2012).

Article 20 of the Nagoya Protocol requires the establishment of voluntary codes of conduct by institutions that are responsible for natural history collections. Best practice guidelines associated with the same article set the framework for a proper code of conduct concerning Access and Benefit-sharing (ABS) with regards to the biological material stored in scientific collections and the research based on their scientific study. The Legislations and Regulations Liaison Group of the Consortium of European Taxonomic Facilities (CETAF) has developed a well-structured and clearly explained Code of Conduct and Best Practice for Access and Benefit Sharing (Bodegård et al. 2015). It is the first such best practices document to be officially recognised by the European Commission. Ideally, this document should be used as a guideline for Swiss natural history collections.

Material which falls under the rules of the Nagoya Protocol but does not meet its requirements, e.g. due to lack of documentation, can be integrated into the collection following the institution's guidelines but can only be used for morphological studies or for exhibition purposes. Archiving the documentation for objects covered by the Nagoya Protocol is necessary as a safeguard of the legal status of this material for use in future genetic studies.

Recommendation

→ to comply with the Nagoya protocol, use the Code of Conduct for Access and Benefit Sharing developed by the CETAF. For full text including a 'toolkit' with models that can be used to establish the necessary paperwork for compliance, see Bodegård et al. (2015)

Suppliers

- for details on CITES, contact the Federal Food, Safety and Veterinary Office
- for details on the Nagoya Protocol, contact the Federal Office for the Environment
- to register as a scientific institution for a simplified exchange of CITES protected scientific material, see forms at www.blv.admin.ch/blv/en/home/import-und-export/export.html

Further reading

- Federal Act on the Protection of Nature and Cultural Heritage (NCHA 451)
- for general CITES regulations, see CITES (2020a) or the ordinance on the movement of animals and plants of protected species (VCITES 453.0)
- for a summary on CITES in Switzerland, see FSVO (2020a) and for information on the enforcement FSVO (2020b)
- for a summery on Nagoya Protocol legislation, see Federal Office for the Environment (FOEN 2020b) or the Nagoya Ordinance, i.e. the Ordinance on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilisation (451.61)
- for a summary on the implications of the Nagoya Protocol for research, see Biber-Klemm and Martinez (2012)
- for a Nagoya sample agreement, see Biber-Klemm et al. (2010)
- for a tool box on mutually agreed terms for Access to Genetic Resources and Sharing of Benefits of Nagoya, see Biber-Klemm et al. (2016)
- for further Nagoya specificities for botanical gardens, see IPEN (2018)

1.4.2 National and cantonal laws in Switzerland

Various Swiss laws regulate the management of natural history collections and the objects they contain. Some laws concern the protection of species and landscapes and therefore influence the conditions under which specimens may be collected and legally deposited in collections. Other laws regulate how specimens are to be handled after they enter a collection.

Laws for the protection of living organisms and landscapes

Two distinct types of legislation are relevant for acquiring material from natural sources. The first protects indi-

Figure 1.4.2.a: Deer collection at the NSFL in Triesen (photo Holger Frick)

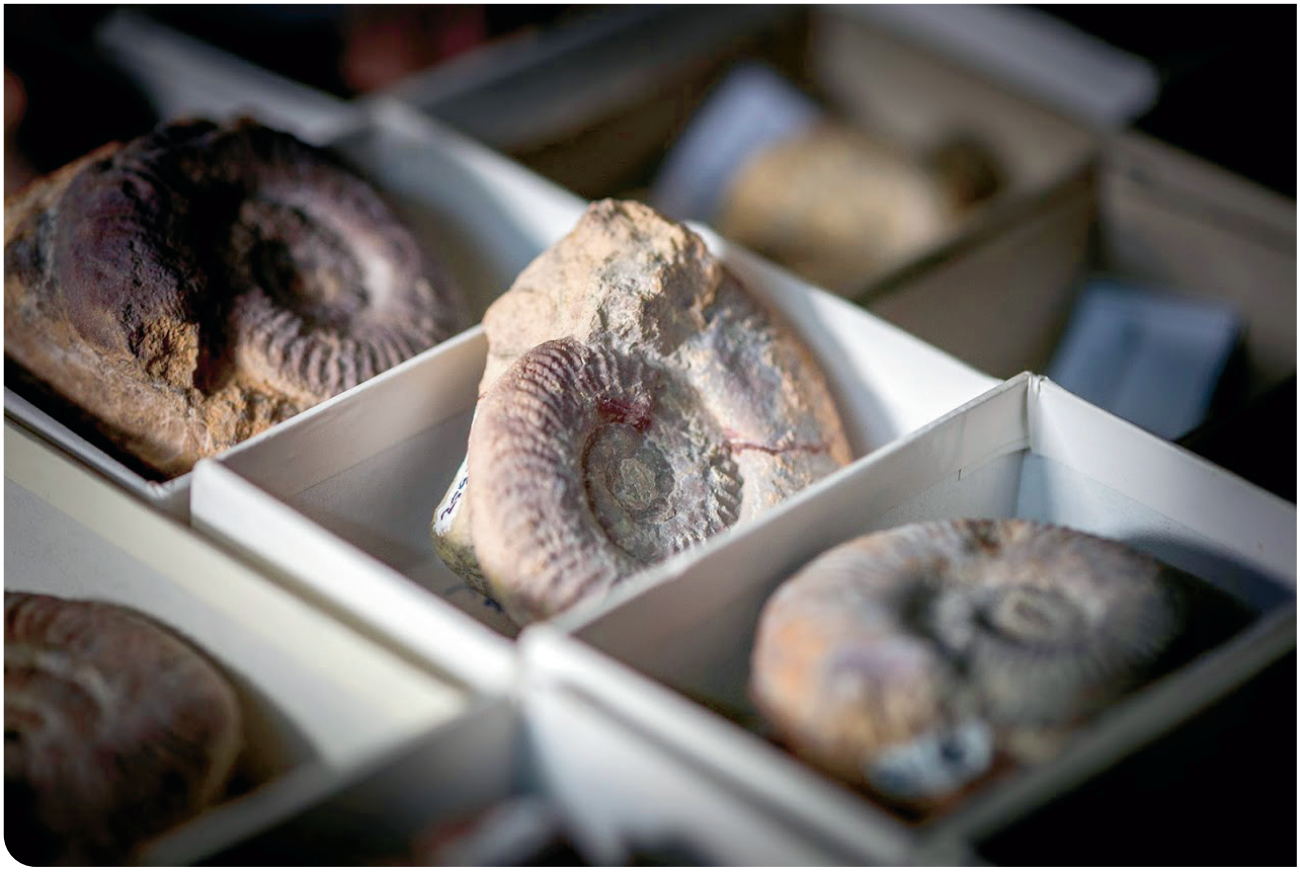

Figure 1.4.2.b: Ammonites in the fossil collection of the MHNG in Geneva (photo Philippe Wagneur)

vidual species (or groups of species) from disturbance in their place of natural occurrence (see an up-to-date summary on laws concerning Swiss plant species at InfoFlora 2020). However, the definition of 'disturbance' may vary from canton to canton.

The second protects specific areas, where all species in that particular area may receive protected status. Reserves with a protected status can be designated by the local community, the canton or the federal government. The laws that apply to collecting at a specific place are the sum of all laws pertaining to that place, meaning that permits may be required at multiple levels.

Most regulations are cantonal (see Federal Constitution Art. 78) and the relevant authorities should be consulted directly. Usually, these are the offices for nature (including forests, hunting and fishing) and landscape protection. The Conference of Commissioners for Nature and Landscape Conservation (KBNL 2020) provides a list of all the relevant cantonal offices.

The range of national laws is broad and can be found in the Federal collection of laws in all national languages and in English (see further reading). At the national level, the following general laws are particularly relevant for the protection, research and documentation of nature.

The Federal Constitution puts cantons in charge of the protection of natural and cultural heritage, according to the Federal Constitution of the Swiss Confederation (101 Art 78). The cantons are responsible for legislation protecting animal and plant life, preserving their natural habitats and protecting endangered species (101 Art 78).

However, the Confederation regulates the research and documentation of natural heritage, such as natural monuments and national parks, and can also subsidise research efforts as enacted in the Federal Act on the Protection of Nature and Cultural Heritage (NCHA 451, Art 3, Art 14, Art 14a, Art 22, Art 23f).

Taxon specific laws, including geological material

For the protection of species, the Ordinance on the Protection of Nature and Cultural Heritage (NCHO 451.1, Art 20) provides the legal framework. It also includes lists of protected species (NCHO 451.1, annexes 2–4) that can only be collected for research purposes with special permits

provided by the cantonal offices. In addition, there are specific laws for collecting different types of organisms, such as mammals, birds and fish, as well as for sampling in different biotopes, including mires, grasslands and water bodies (for a detailed list, see FOEN 2020a).

There are specific restrictions on collecting geological objects. The Swiss Association for Mineral and Fossil Collectors (SVSMF) provides a list of permits and restrictions for different cantons and municipalities (SVSMF 2017). These are required to legally collect minerals in Switzerland.

Laws for the protection of collection items

In Switzerland, the protection of cultural property is organised nationally (see list of laws under further reading). Since the third revision of the Federal Act on the Protection of Cultural Property in the Event of Armed Conflict, Disasters and Emergency (KGSG 520.3), most natural history collections are included on the list of A-level objects (KGSV 520.31). It lists institutions with collections of national importance (see FOCP 2020a). The cantons are responsible for compiling protection measures, including necessary documentation and photographs, of cultural property in particular need of protection (KGSG 520.3, Art 3, Art 5). This might particularly, but not exclusively, concern historic objects in natural history collections.

Recommendations

→ contact cantonal offices prior to collection trips in Switzerland to get collection permits and include the permit in your collection database with the respective objects. Permit numbers can also be added to specimen labels

→ remind your cantonal administration (usually the Office for Culture) that your natural history collection is considered an A-level object of national importance and must be protected and documented

Contacts

- for cantonal contacts on the protection of species and landscapes, see the list of the Conference of Commissioners for Nature and Landscape Conservation (KBNL 2020)

Further reading

- for cantonal duties in nature protection, see Federal Constitution of the Swiss Confederation (101 Art 78)
- for a collection of Swiss Acts and Ordinances on biodiversity and its protection, see Federal Office of Environment (FOEN 2020a)
- for a list of A-level cultural property institutions, including Swiss natural history collections, see Federal Office for Civil Protection (FOCP 2020a) or (KGSV 520.31
- for laws concerning the protection of cultural property, see the Federal Office for Civil Protection (FOCP 2020b) or the Federal Act on the Protection of Cultural Property in the Event of Armed Conflict, Disasters and Emergency (KGSG 520.3)
- for the legal framework on the protection of species, see the Federal Act (NCHA 451, Art 3, Art 14, Art 14a, Art 22, Art 23f) and the Ordinance on the Protection of Nature and Cultural Heritage (NCHO 451.1 Art 20)

1.5 Writing a collection concept

A collection concept is a written strategy that details the principles, objectives, purposes and procedures of collection management. It serves as a guideline, as a source of information, a means of communicating with stakeholders and as a plan for collections management in the long-term. It should therefore be accessible and published. The ICOM Code of Ethics (ICOM 2017) provides the following summary: 'The governing body for each museum should adopt and publish a written collections policy that addresses the acquisition, care and use of collections. The policy should clarify the position of any material that will not be catalogued, conserved, or exhibited.' In addition to this, the ICOM Code of Ethics for Natural History Museums (ICOM 2013) establishes basic standard practice guidelines for the accession, handling and preservation of natural history objects, which can be further developed to fit the needs of individual institutions. Up until the turn of the current millennium, only a few natural history museums in Switzerland had a written collection concept (Schäfer 2002).

Strategic use

Public collection holding institutions like museums, universities and botanical gardens generally have a legal basis (e.g. guidelines, ordinances and laws like a museum law, protection of cultural property laws) that regulates the core tasks undertaken by the museum and provides a direction for collections development. At the Nature Museum Lucerne, for example, this legal requirement specifies the region from which natural objects should be collected and for what purpose (Allgöwer and Hotz 2016). The International Council of Museums ICOM provides elementary ethical guidelines for the development of a collections concept that many museums follow (e.g. ICOM 2013, 2017). However, only a collection concept that is developed based on legal and ethical principles and tailored to fit the needs of an individual institution sharpens the strategic direction of the collection and research activity of the institution itself.

Institutional value

The collection concept includes a collection analysis to assess the existing collection and forms the basis for collection activities in the future. It describes the collection and history of the institution and sets out the principles by which it was assembled and, indirectly, future avenues of research that may be pursued. Based on the collection analysis, strategic action plans for collection development and future research directions may be outlined.

A collection concept guarantees the active development and constant expansion of the collection. Donations may be rejected, based on good documented reasons, thereby enhancing the profile of the collection. Since considerable funds and resources flow into the management of a collection, a clearly defined collection concept is indispensable for the day-to-day work of the institution and thus the economic security of the collection for future generations (Liersch 2016).

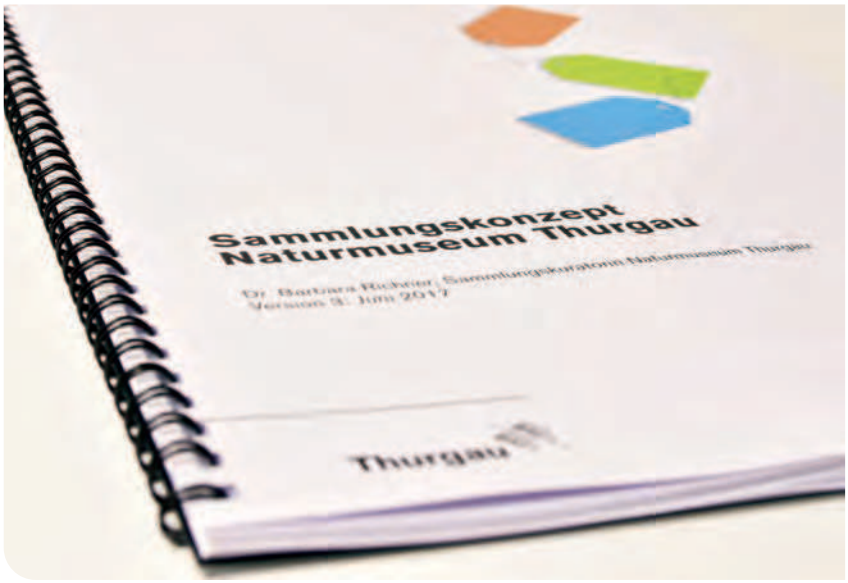

Figure 1.5.a: Collection concept of the NMTG in Frauenfeld (photo Eliane Huber)

Content of a collection concept

A collection concept may include certain elements that are described in detail in Liersch (2016) or have been outlined in collection concepts already established by several Swiss museums (see examples). The concept should have a general section that includes a collection mission statement, the purpose of the collection, the general collection strategy and the legal framework of the collection, including regional, national and international legislation. A section describing the history of the collection should follow, describing the strengths, weaknesses, gaps and the collection infrastructure. Ideally, different collections are described in an

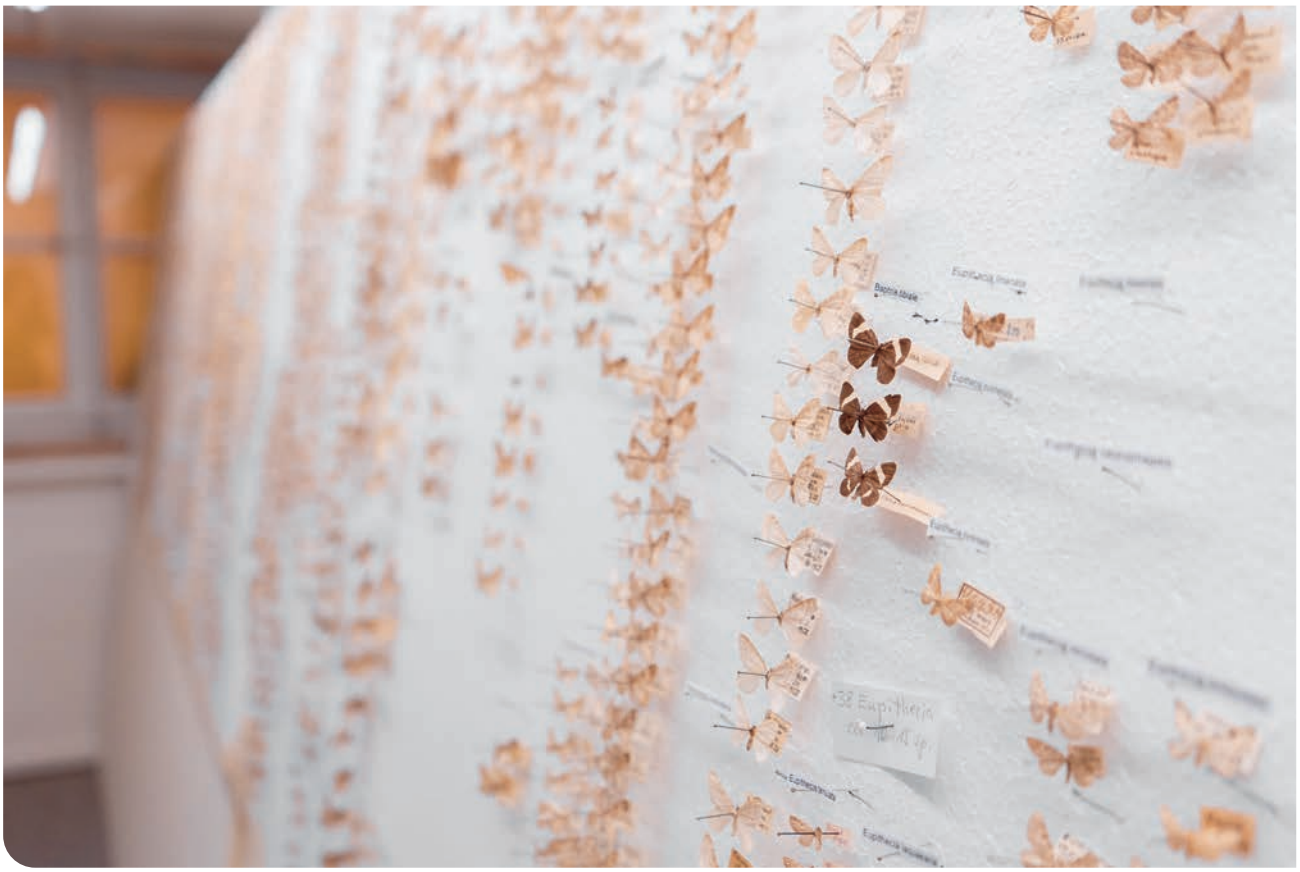

Figure 1.5.b: Donation of a butterfly collection. Systematic ordering before integration into the scientific collection of the MHNF in Fribourg (photo Michael Maillard)

appendix, including current curatorial status, scope, core taxonomic groups or geological entities, main focus, characteristics, etc. Several approaches are available for assessing progress in collection curation (see section 4.7.1).

A section on accessioning, collection maintenance (including storage, exhibition practices, risk management) as well as deaccession methods and criteria should follow. Finally, the organisation, responsibility and action plans should be listed together with reference to literature and practical guidelines, forms and standard contracts for loans and accession used by the institution.

General information on accession

Accession may be defined as the process by which a museum or other institution acquires new material for their collections. A targeted and continuous receipt of objects can significantly optimise the quality of a collection. As with any scientific activity, this means that those responsible for the collection must make conscientious decisions and select objects carefully, based on specific criteria. If the process of receiving objects is carried out in a serious and systematic manner, the collection profile will be continuously enhanced, which should, among other things, reduce the number of de-accessions and thus the complicated procedures associated with them (Liersch 2016).

Accessions should follow a set of priorities listed in a collection concept and in keeping with the defined focal points of the collection. The conservation of the existing collection should always be prioritised and thus the costs and benefits of integrating new specimens must be evaluated before deciding whether to expand a collection. Conservation arguments alone are not enough; collections must also be indexed, inventoried, digitised, made available for research, included in publications and used for educational purposes. All of these elements imply certain time and financial costs.

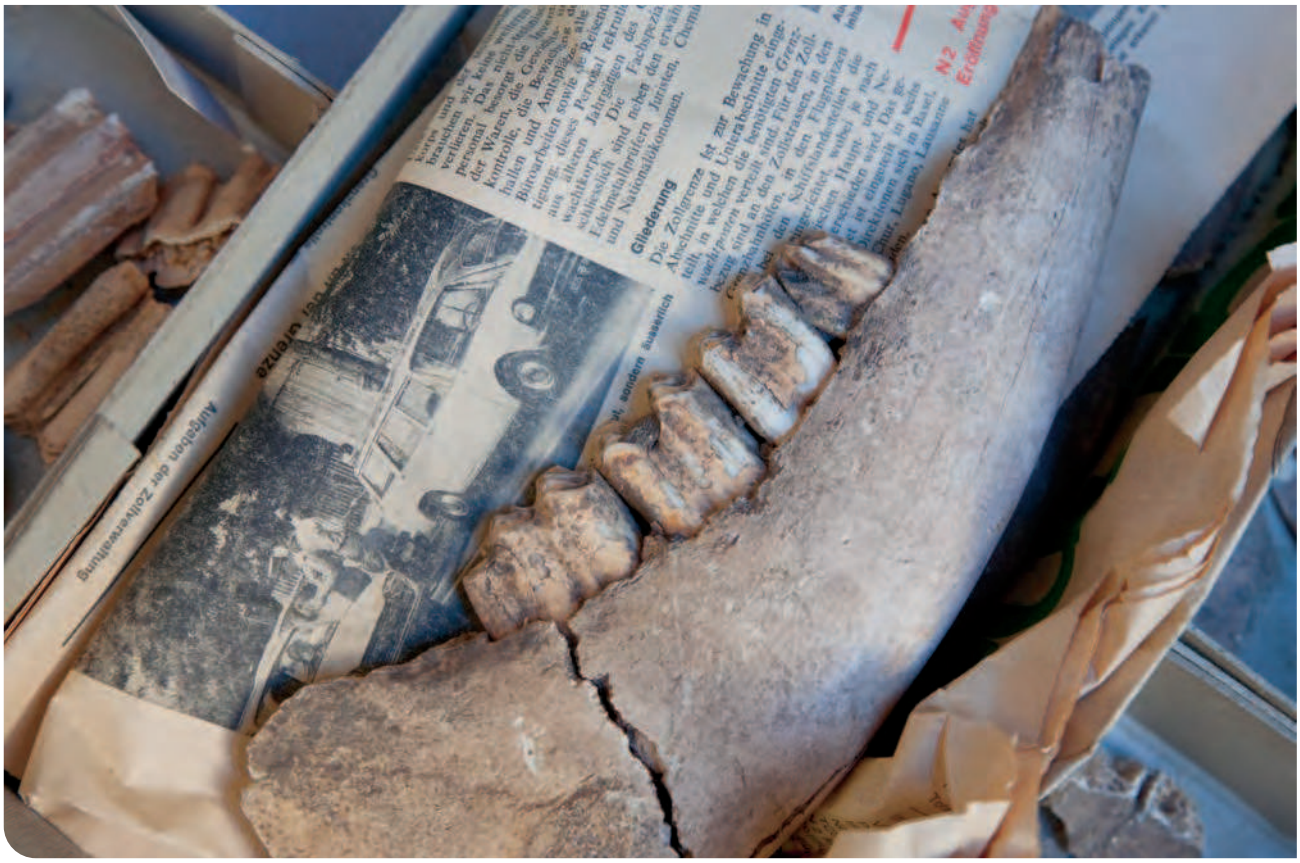

Figure 1.5.c: Jaw of a cattle for the NMBE in Bern (photo Lisa Schäublin)

New accessions should thus only take place in priority areas and with appropriate consideration for both the short-term costs of the accession and the long-term costs associated with the maintenance and management of the collection. A cost analysis for collection accession must therefore be drawn up in advance.

Criteria for an accession

In order to evaluate the value of an object for a particular collection, certain criteria should be defined in advance, for example, the rarity of a specimen, the physical state of the specimen and the quality of the collection and geographic information associated with it, how well it complements the scientific collections as a whole or its utility for outreach and educational purposes. These criteria should be briefly but carefully explained. In some cases, the use of key words may suffice. Using this means of evaluating each object, the decision-making process regarding whether an object should be accepted becomes more simple and transparent, especially for third parties. Also, the decision process and decision makers should be defined. This strengthens the credibility of the institution and makes subsequent work and decisions regarding future accessions easier and more efficient (Liersch 2016).

General information on deaccession

Deaccession can be broadly defined as the process by which objects are removed from a collection. In principle, a natural history institution is responsible for the conservation of its collections for future generations. Deaccession thus represents an exceptional case that should only be undertaken within strict limits and according to defined guidelines. Deaccession is particularly delicate because it can be accompanied by a loss of public trust, which, under certain circumstances, may cause considerable damage to an institutions credibility. An unstructured choice of objects that are ultimately deaccessioned may also deter future potential donors. In addition, legal problems may arise, since any object held in trust for a donor cannot simply be deaccessioned. It is therefore advisable to carry out the removal of objects from a collection only after serious consideration and to carefully document the whole process.

Recommendations

- → write a collection concept
- → check the legal and ethical basis of your existing collection
- → define the focal point(s) of your collection and respect them. New focal points should stem from the analysis of the composition of the existing collection and research focal points, as well as from existing personnel resources
- → assess the existing collection and define a specimen accession and deaccession strategy
- → only acquire specimens and collections if they are donated and put at 'the institution's disposal', including integration into existing scientific and/or other collections and the possibility for specimen deaccession
- → inventory every specimen before deaccession

Examples

- for the collection concept of a small but heterogeneous collection, see Frick (2015), Schmid and Rehsteiner (2012) or Allgöwer and Hotz (2016)
- for the collection concept of a large and uniform collection, see Klug (2017)
- to accession an object or collection, the BNM in Chur follows the following steps, summarised in Liersch (2016): define the type of purchase, describe the collection, clarify restrictions, conditions and suitability for the collection, involve specialists if needed, decide on the accession, set up a contract in which rights are transferred from the donor to the museum and integrate specimens into the collection
- to deaccession an object or collection, the BNM in Chur follows the following steps, also summarised in Liersch (2016): check original type of purchase, describe and document the object (decisions, identification of the object, photography, tissue sample, inventory, field notes, database identifiers), justify and document deaccession

Further reading

- for general aspects on collection concepts, see VMS (2011)
- for guidelines on writing a collection concept, see Heinzel et al. (2011), Overdick (2007), Zauzig (2017)
- for the ICOM code of ethics, specifically for natural history collections, see ICOM (2013, 2017)
- for deaccession guidelines, see Deutscher Museumsbund (2011), Heisig (2007) or VMS (2018)

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